

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* RAVINDRA L. ARUDI and RAMESH C. KUMAR

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Appeal No. 1997-3544  
Application No. 08/404,234

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ON BRIEF

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Before PAK, WALTZ and JEFFREY T. SMITH, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

**DECISION ON APPEAL**

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 through 23 and 44 through 47. Claims 24 through 43 are the only other claims pending in this application and stand withdrawn from consideration by the examiner as being directed to a nonelected invention (Brief, page 3; Answer, page 2).

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According to appellants, the invention is directed to magnetic recording media comprising a substrate bearing a magnetic layer containing magnetic pigments in a polymeric binder, wherein the binder comprises a non-chlorinated vinyl copolymer including nitrile, hydroxyl, and fluorine containing pendant groups (Brief, pages 4-5). A copy of illustrative claim 1 is attached as an Appendix to this decision.

The examiner has relied upon the following references as evidence of obviousness:

Proskow	3,558,492	Jan. 26, 1971
Shimozawa et al. (Shimozawa) <sup>1</sup>	4,726,990	Feb. 23, 1988
Chernega et al. (Chernega)	4,783,370	Nov. 8, 1988
Nakamura et al. (Nakamura)	5,320,914	Jun. 14, 1994

All of the claims on appeal stand rejected under 35 U.S.C.

§ 103 as unpatentable over Chernega in view of Nakamura, Shimozawa and Proskow (Answer, page 3). We reverse this rejection essentially for the reasons stated on pages 7 and 9

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<sup>1</sup> This reference was inadvertently omitted from the listing of "Prior Art of Record" in paragraph (9) on page 2 of the Answer. However, this reference was recited in the statement of rejection in both the Final Rejection and the Answer, as well as discussed by appellants in the Brief (pages 6-7). Accordingly, we deem this error to be harmless.

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of appellants' Brief. We add the following comments for  
completeness and emphasis.

**OPINION**

The examiner finds that Chernega discloses a magnetic recording medium comprising a magnetic layer provided on a non-magnetizable substrate wherein the magnetic layer comprises a magnetic pigment dispersed in a polymeric binder (Answer, page 3). The examiner further finds that the polymeric binder of Chernega comprises a vinyl chloride copolymer having pendant hydroxyl groups but this reference fails to disclose a binder with nitrile and fluorine pendant groups (*id.*).

The examiner applies Nakamura for the teaching that vinyl chloride copolymers are undesirable for polymeric binders in a magnetic recording medium and should be replaced by a styrene or acrylic copolymer (*id.*). The examiner finds that Nakamura also teaches that acrylonitrile is a desirable comonomer to yield a pendant nitrile group to increase intermolecular forces and promote solubility with urethanes, conventionally used as a soft resin in the binder (*id.*). From these findings, the examiner concludes that it would have been obvious to one of ordinary skill in the art to eliminate the

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vinyl chloride comonomer of Chernega and replace it with styrene and acrylonitrile comonomers as taught by Nakamura to promote solubility with urethane resins (*id.*).

The examiner has realized that the proposed combination of Chernega and Nakamura fails to disclose or suggest "the use of comonomers having pendant fluorine containing groups," i.e., the limitation of "pendant fluorine-containing groups" recited in claim 1 on appeal (Answer, page 4). The examiner applies Shimozawa to "teach the use of fluoro [sic, fluoro] graft copolymer in which fluorine containing methacrylates are used to affix the fluorine group to a main chain of a copolymer, see column 14, lines 42-58." *Id.* Therefore the examiner concludes that it would have been obvious to one of ordinary skill in the art to use a fluoro methacrylate as a comonomer to incorporate a pendant fluoro group into the main chain of Chernega in order to provide a lubricating surface for the magnetic layer (*id.*).

On this record, we determine that the examiner has provided no factual basis to support the conclusion of obviousness based on the Shimozawa reference. Shimozawa

teaches many binders for the magnetic layer (column 4, l. 17 et seq.). After this disclosure of possible binders, Shimozawa discloses that "[t]he magnetic layer may further contain a lubricant." (Col. 13, l. 51). Among many other lubricants, this reference teaches that "radiation-curable lubricants may conveniently be used." (Col. 14, ll. 11-12). From the classes of radiation-curable lubricants, Shimozawa teaches some "fluoride substituted lubricants" (col. 14, ll. 42-58) but does not include any fluoride substituted lubricants among the preferred examples or in any of the examples (see col. 14, ll. 59-63 and the Examples on cols. 16-24). The examiner has not presented any convincing evidence or reasoning, nor pointed to any evidence in Shimozawa, that even if one of ordinary skill in the art selected the fluoride substituted lubricants of Shimozawa, the fluorine group would graft onto the main polymer chain in the polymeric binder of Chernega or Nakamura. On this record, there is no evidence that adding the fluoride substituted lubricant of Shimozawa to the binder of Chernega or Nakamura would have resulted in a pendant fluorine-containing group in the final binder. See

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the examples of Shimozawa, where lubricants are added to binder compositions containing a vinyl chloride-vinyl alcohol copolymer, with no evidence of any reaction.

As noted by appellants and the examiner, Proskow is applied to show the addition of non-dispersing comonomers to polymeric binders to regulate polymer solubility, oxidation resistance and the ability to disperse the magnetic pigments (Answer, page 4; Brief, page 7). Accordingly, Proskow does not overcome the deficiencies in the examiner's factual support discussed above. For the foregoing reasons and those stated in the Brief, we determine that the examiner's conclusion of obviousness is not supported by facts. "Where the legal conclusion [of obviousness] is not supported by facts it cannot stand." *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967). Accordingly, the examiner's rejection of claims 1-23 and 44-47 under 35 U.S.C. § 103 over Chernega in view of Nakamura, Shimozawa and Proskow is reversed.

The decision of the examiner is reversed.

**REVERSED**

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CHUNG K. PAK	)	
Administrative Patent Judge	)	
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	)	BOARD OF PATENT
THOMAS A. WALTZ	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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JEFFREY T. SMITH	)	
Administrative Patent Judge	)	

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#### **APPENDIX**

1. A magnetic recording medium, comprising a magnetic layer provided on a nonmagnetizable substrate,

wherein the magnetic layer comprises a magnetic pigment dispersed in a polymeric binder, the polymeric binder comprising a resin; and

wherein the resin comprises a nonchlorinated fluorine-containing vinyl copolymer having pendant nitrile groups, pendant hydroxyl groups, and pendant fluorine-containing groups.

